



# *Jocassee Journal*

Information and News about the Jocassee Gorges

Spring/Summer, 2002

Volume 3, Number 1



The Toxaway River spills downstream in North Carolina's Gorges State Park. (Reprinted from "Mosaic: 21 Special Places in the Carolinas, copyright 2002, by permission of Westcliffe Publishers Inc., Englewood, Colo., and Tommy Wyche, the photographer.)

## Jocassee Gorges included in new book 'Mosaic: 21 Special Places in the Carolinas'

By Tommy Wyche

*(Editor's note: This is the first in a series of installments from Tommy Wyche's new book, "Mosaic: 21 Special Places in the Carolinas," published in 2002 by Westcliffe Publishers. Thirty-eight pages of photos and text in the book are devoted to Jocassee Gorges. Text and photos reprinted with permission. To order the book, call Westcliffe Publishers at 1-800-523-3692.)*

Nine separate areas comprise the parks, wildlife management areas, and preserves of Jocassee Gorges, as this area on the North Carolina-South Carolina border has come to be known. Seven of the areas, about 39,000 acres, are in South Carolina, and three, about 11,000 acres, are in North Carolina.

Superlatives cannot be avoided when describing this spectacular wilderness of nearly 50,000 acres of mountain lands, cut by steep ravines, rushing streams, and scores of waterfalls, and abundant plant and animal life. These wilderness properties, once owned by Duke, are now

owned and managed by agencies of the states of North Carolina and South Carolina and the U.S. Forest Service. In the heart of the wilderness lies Lake Jocassee, a 7,500-acre turquoise jewel of clear, pure water of remarkable beauty. Duke continues to own and operate this lake as part of its hydroelectric pumped storage complex.

Jocassee Gorges is one of the most biologically diverse and important landscapes in the eastern United States. This extraordinary wilderness resource, standing alone, was a compelling cause for preservation. But the Jocassee Gorges does not stand alone. Like the keystone of a great arch, this 50,000-acre tract links two other large natural preserves of the Blue Ridge Escarpment to form a 167,000-acre unspoiled natural area. On the east, South Carolina's Table Rock State Park and the Mountain Bridge Wilderness Area encompass some 47,000 acres; and on the west, more than 70,000 acres of Sumter, Nantahala, and Chatahoochee National Forests, stretch along the Blue Ridge Escarpment. Together, these lands comprise a wilderness area of truly national significance –

(See New Book on Page 2)

# New Book

(Continued from Page 1)

especially important today in view of the fact that it is located within one of the fastest growing regions in the country.

Recorded history of this part of what are now the Carolinas dates back to the explorations by De Soto in 1589 in the vicinity of the Keowee River. The capital of the Lower Cherokee Indian Nation was located on the Keowee at Keowee Town, a short distance downstream from where the Jocassee Dam now stands. The Keowee flows through Oconee County, and the county's name derives from Uk-Oo-Na, meaning "watery eyes of the hills," doubtless referring to the myriad springs, streams and creeks of the Blue Ridge Escarpment. The Cherokee called the escarpment the Blue Wall, an apt phrase for the nearly vertical mountainsides that rise more than 4,000 vertical feet within three or four miles.

By the late 1700s trade routes between the Cherokees and the English had become well established, with Keowee Town the hub along the trading path that extended into Tennessee. Eventually, relations between the Indians and the English became tense and hostilities erupted. The Governor of South Carolina had Fort Prince George constructed on the bank of the Keowee opposite the Indian capital. A war ensued; in November 1785, at a meeting on the banks of the Keowee, Indian chiefs signed a treaty with General Andrew Pickens, surrendering all of what is now the area of the Jocassee Gorges to the United States.

The Cherokee called the area Jocassee, which means "Place of the Lost One," a phrase derived from a legend of a princess named Jocassee whose lover was killed in a tribal battle her brother. Upon seeing the severed head of her lover, the princess slipped away in a canoe; she then stepped into the river, but instead of sinking, she walked across it to meet the ghost of her lover and disappeared.

The fertile valleys of the Horsepasture, Laurel Fork, Toxaway and Eastatoe Rivers attracted greater and



Where Eastatoe Creek enters the Eastatoe Narrows, the entire flow of the creek passes through a 5-foot-wide channel in bedrock. (Reprinted from "Mosaic: 21 Special Places in the Carolinas, copyright 2002, by permission of Westcliffe Publishers Inc., Englewood, Colo., and Tommy Wyche, the photographer.)


greater numbers of European settlers, even while the land was under Indian control. Land grants in this area were recorded as early as 1791.

Horsepasture became a common name used by settlers for the Jocassee area during the Civil War. When word spread that Sherman and his troops were on their way into upper South Carolina on their march from Savannah, the settlers, whose livelihood depended on their livestock, herded their animals into this "pasture for horses," to hide them in this remote, secluded valley. The rugged terrain provided a natural barrier to Sherman's advance. Unfortunately, the valley was inundated in August 1916, when the dam on Lake Toxaway broke, flooding out residents and depositing a three-foot layer of sand in the once fertile vale.

In addition to fur trading and agriculture, the Jocassee Gorges incubated an industry new to the mountains. In the early 1900s logging virgin timber emerged as a major

source of employment. Various timber companies were formed, a sawmill was built in Pickens, South Carolina, and the Pickens Railroad became an important link to the Southern Railway for loggers. By 1927, however, timber had to be cut in increasingly remote and steep mountains, and hauling it out by horse and mule-drawn wagons was no longer practicable. The easy days of timber harvesting had passed.

In January 1927, three New York capitalists formed the Appalachian Lumber Company, a New York corporation, and easily raised \$1.6 million with a stock offering. (This equates to approximately \$10 million adjusted for inflation today!) With these funds, the Company constructed a huge, triple-band sawmill near Pickens large enough to handle trees sixty inches in diameter. It then purchased the Pickens Railroad and built logging railroads and spurs along the creeks, with trestles spanning deep ravines to reach the most remote areas where the "big 'uns" grew.

*(Next installment: Appalachian Lumber Company goes bankrupt in 1929 after a torrential rainstorm washes out many of the train trestles in Jocassee Gorges.)* —





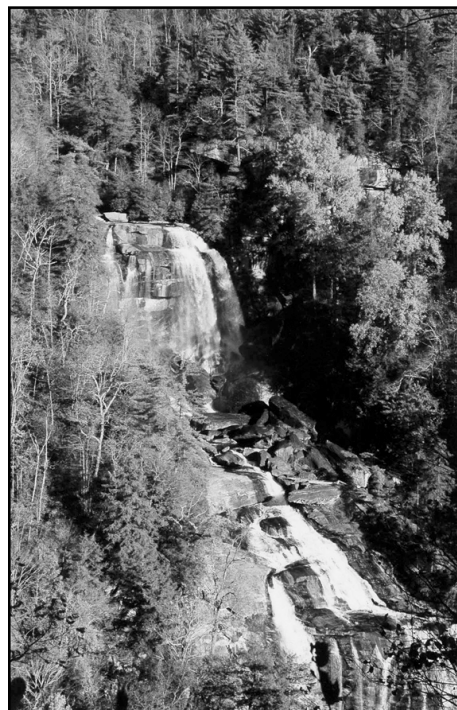
A Becoming an Outdoors-Woman group toured Jocassee Gorges during peak leaf season. Pictured (standing, from left) are Lisa Dalton, Ineke Powers, Jill Denton, Chris Worthy, Angela Smith, Sharon Wright and Susan Dickerson. Kneeling (from left) are Susan Dalton and Jerri Channell. (Photos courtesy of Susan Dalton)

## Becoming an Outdoors-Woman group tours Jocassee Gorges

By Sharon Dobbs, Angela Smith and Pamela Youngblood

Kayaking on Lake Jocassee sounded like heaven. So early one misty October morning we gathered our duds, met at a friend's house, and sped toward our adventure. We envisioned sparkling blue water lapping gently against our boats, crisp autumn air, and glorious foliage in the distance. One problem - heaven was extremely cold and windy that morning. The whitecaps on Lake Jocassee were visible from the Devils Fork State Park visitor's center as our shivering hands clutched our coffee cups: No way would we be allowed to kayak that bitter day.

Our spirit for adventure, however, was undampened. Instead of calling it a wash, our gracious Becoming an Outdoors-Woman leaders offered us a healthy mountain hike instead. The day was saved! We waved goodbye to Becoming an Outdoors-Woman instructor (and DNR Freshwater Fisheries Section assistant chief) Ross Self as he took the kayaks and drove away into the mist.



Whitewater Falls

Instead of battling whitecaps, we posed for pictures in front of cascading waterfalls. Whitewater Falls was breathtaking in the crisp autumn air. So breathtaking, in fact that Pamela had to wait behind while others completed the hike. From Whitewater Falls we ventured on to tour the Walhalla State Fish Hatchery before enjoying a hearty lunch of hot homemade soup, compliments again of our creative Becoming an Outdoors-Woman staff.

Things don't always turn out as expected, but with the Becoming an Outdoors-Woman program, it's guaranteed to be an adventure filled with friends, fun and frivolity! (Sharon Dobbs, Angela Smith and Pamela Youngblood are teachers at Pickens High School. After their first Becoming an Outdoors-Woman experience in 2000, they formed their own group called the Outdoors Women Leaders or OWL's. For more information on the Becoming an Outdoors-Woman program, call (803) 734-3624, e-mail [kendrab@scdnr.state.sc.us](mailto:kendrab@scdnr.state.sc.us) or visit the DNR Web site at <http://www.dnr.state.sc.us/cc/ow.html>.)



# Diversifying Jocassee Gorges to include grasslands-shrublands for wildlife

By Anna E. Huckabee  
South Carolina DNR

Jocassee has great potential to become the Cinderella story of modern wildlife management, but to get there, it must be diversified to give both late-successional and early-successional species a place within the landscape. (Succession refers to the growth stages of a forest.)

The 43,500-acre Jocassee tract is large enough to provide a variety of habitat types for populations of plants and animals that require such areas in their life cycles. Mature cove hardwood and upland oak communities are protected and maintained for area-sensitive, forest-interior species. However, the need also exists for expanses of grassland-shrubland communities to support the plants and animals that occur in this different seral stage. "Seral" means age of a forest. There are usually four seral stages in forest regeneration: bare ground/grass, shrub/scrub, poletimber and sawtimber (mature).



Even common species such as the Eastern towhee have experienced significant declines in the last 35 years.

Upland grasslands-shrublands have declined in size, frequency of occurrence. The S.C. Department of Natural Resources (DNR) is faced with not only protecting those remnant communities, but also with restoration of these communities in selected areas for plants and animals. The Cherokees and early white settlers burned the land, created small gardens, and fostered the existence of grassland-shrubland communities. Exclusion of fire beginning in the 1900s and resultant closure of the forest canopy as patchwork farms dwindled started the decline of grassland-shrubland birds. According to the Breeding Bird Survey, even our

most common species such as the Eastern towhee and American goldfinch have experienced significant declines in the last 35 years, some as much as 20 percent since 1966.



Hawks and owls scour mountain openings in search of rodents and rabbits.

In keeping with the spirit of Partners in Flight, whose premise is to "keep common birds common," tracts of unfragmented, quality grassland-shrubland habitat

*'The Cherokees and early white settlers burned the land and fostered the existence of grassland-shrubland communities. Exclusion of fire beginning in the 1900s and the resulting forest canopy closure started the decline of grassland-shrubland birds.'*

should be established in Jocassee and existing ones maintained. The plants that typically grow in such openings would provide nesting substrates for birds, attract insects for fledglings, and provide seeds and berries for winter food. These areas would help maintain populations of Northern cardinal and other common





Early successional growth like this hardwood regeneration site at Tater Hill Forestry and Wildlife Demonstration Area provide many benefits for wildlife.

species, but it might also establish breeding grounds and/or foraging sites for important Watch List species such as chestnut-sided warbler. Even species that have almost disappeared from our state recently, such as the Bewick's wren, may find refuge in these suitable habitats we have cared enough to create and maintain for them.

Other wildlife need these mountain openings because of the herbaceous forage such areas provide. Hawks and owls scour the openings in search of rodents and rabbits attracted to the new green shoots, while black bear nibble late-summer blackberries. Ruffed grouse, attracted to the insects in these openings, bring their chicks to forage. What a wonderful sight that would be to see while on a family hike, and the picturesque view of the surrounding mountains from such a vantage point would be spectacular!

Many areas would function more effectively as early-successional communities than in their current condition. These areas include planted white pine

stands. These stands are currently functioning as no more than "biological deserts" (or at least poor-quality habitat) and possibly barriers to dispersal due to the fact that they have not been maintained properly in the past. Such areas could be converted to grassland-shrubland and therefore be more productive for wildlife and certain plant communities that require these openings.

According to research cited by the North American Bird Conservation Initiative, if we allow bird species to become scarce, the economic costs of trying to recover them would be far greater than had we made an effort to stabilize their populations with sound conservation practices while we still had the chance.

The DNR has options to consider in restoring unique communities and providing for all species. It will be a challenge to create a mosaic of habitat and seral stages that will support a diversity of life.

*(Anna E. Huckabee is the DNR's Forest Stewardship biologist and did her master's work at Clemson University in the Jocassee Gorges.)*



# Working Group guides research at Jocassee Gorges

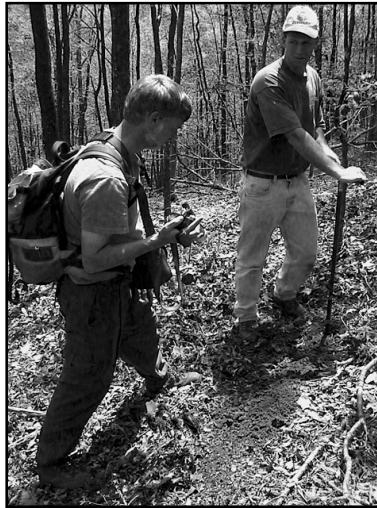
The 43,500-acre Jocassee Gorges provides opportunities for scientific research on many aspects of the fauna, flora and general ecological processes of the mountainous Blue Ridge Escarpment. The Jocassee Gorges Professional Management and Research Working Group serves as the clearinghouse for research proposed and conducted on the property.

The Working Group is a joint venture between the S.C. Department of Natural Resources, Clemson University, the South Carolina Department of Parks, Recreation and Tourism, and the S.C. Forestry Commission. The role of the Working Group is to insure that the most complete scientific data available are considered in making management decisions, the most appropriate strategies are used for surveying, inventorying and monitoring on the property, and to develop funding proposals and seek funding sources for research at Jocassee.

The Working Group will evaluate research proposals to determine relevance to the long-range research issues of importance for the Jocassee Gorges. Once the evaluation process has been completed, prospective researchers will coordinate with DNR to obtain appropriate permits.

Some of the recent and current research at Jocassee Gorges includes:

- “The Small Mammal Population of the Jocassee



Dr. Vic Shelburne (left) and Scott Abella work on a research project in Jocassee Gorges. (Photo by Greg Lucas)


Gorges of South Carolina: Broad Patterns and Effects of White Pine Management,” Christine Lewis and Dr. David Tonkyn, Clemson University, principal investigators

- “A Floristic Study of the Cane Creek Drainage Area in Jocassee Gorges,” Layla Waldrop and Dr. Robert Ballard, Clemson University principal investigators

- “Breeding Ecology of Swainson’s Warblers in the Jocassee Gorges Region of South Carolina,” Dr. Drew Lanham, Clemson University, principal investigator

- “Avian Diversity in the Jocassee Gorges and Ellicott Rock Wilderness in South Carolina as a Result of Historical Habitat Management and Ecological Site Types,” Scott Abella, Julia Camp and Dr. Vic Shelburne, Clemson University,

principal investigators

Institutions, organizations or individuals with a desire to conduct research on the Jocassee Gorges should contact the Working Group, by providing a research proposal to either of the Working Group co-chairs: 

Dr. Vic Shelburne  
Clemson University  
Clemson, SC 29634  
864-656-4855  
vshlbrn@clemson.edu

Breck Carmichael  
DNR - PO Box 167  
Columbia, SC 29202  
803-734-3941  
breckc@scdnr.state.sc.us

## Soilborne plant pathogen may pose threat to Jocassee trees

By Alicia K. Wood, Steven N. Jeffers and F.H. Tainter  
Clemson University

Species of the soilborne, plant pathogenic fungus *Phytophthora* pose a threat to natural areas. These fungi, if present or introduced, may attack and devastate susceptible plant species. *Phytophthora* species are known to attack more than a thousand plant species worldwide.


Symptoms of *Phytophthora* in trees and shrubs include sparse new growth, yellowish leaves, and thinning canopies. Some infected trees grow basal cankers that are accompanied by a reddish to dark brown or black ooze called “bleeding” cankers. Cankers usually enlarge slowly over time and are restricted to the lower trunk area and may persist for several years. However, some trees may suddenly wilt and die if the infection spreads rapidly and girdles large scaffold branches or the trunk.

To determine the occurrence of *Phytophthora* species within the Jocassee Gorges, 22 randomly located plots were established to test soil samples for *Phytophthora* species. Two species were found: *P. heveae* and *P. cinnamomi*, which were recovered from 23 percent and 55 percent, respectively, of the samples collected. *P. heveae* originally was isolated from rubber trees in Malaysia and

since then has been found only infrequently in other locations around the world, including soils in old-growth hardwood and hemlock forests at elevations above 1,065 meters in Tennessee and North Carolina.

*Phytophthora cinnamomi* is a serious pathogen of many plants native to this area, including a number of those in pine, oak, rhododendron and blueberry. For example, *P. cinnamomi* is the primary cause of littleleaf disease of shortleaf pine (*Pinus echinata*) and loblolly pine (*Pinus taeda*). This disease causes yellowing of current season needles, a reduction in shoot growth and eventual death.

Also, *P. cinnamomi* is suspected to be a causal agent of decline and premature mortality of oaks. It recently was isolated from cankers on the stem of bur oak (*Quercus macrocarpa*) in South Carolina and from basal cankers on laurel oak (*Q. laurifolia*) in central Florida.

It is important to understand the role *Phytophthora* species play in forest ecosystems. The presence of *P. cinnamomi* and *P. heveae* in the Upstate of South Carolina poses a potential threat to plant biodiversity. 



# Regulations approved for Jim Timmerman Natural Resources Area at Jocassee Gorges

Regulations were recently approved by the S.C. General Assembly for many DNR lands including the Jim Timmerman Natural Resources Area at Jocassee Gorges.

## Camping

- Backcountry camping by permit will be allowed at any time during the year that the main roads allowing access to the Jocassee Gorges are not opened in connection with big game hunting. Backcountry camping is allowed by permit only at any location within the Jocassee Gorges, except for any area closed for camping by the S.C. Department of Natural Resources (DNR). Backcountry camping is defined as minimal impact camping. No fires are allowed, and each permitted camper is responsible for camping in a manner that results in no trace of the camping activity being left after breaking camp. The DNR may condition permits to protect, preserve, or maintain the property. Backcountry campers must apply for camping permits over the DNR Internet site. No camping is permitted within 50 feet of a stream, lake, or as posted by the DNR.

- The Foothills Trail passes through portions of the Jocassee Gorges. Use of the Foothills Trail shall be limited to hiking and primitive camping. Camping is allowed at any point along the trail and within one hundred feet of either side of the trail. Camping along the Foothills Trail is restricted to hikers while engaged in backpacking.

## Operation of motorized, non-motorized, all-terrain and off-road vehicles

Motorized and non-motorized vehicle access to the Jocassee Gorges is limited. S.C. Highway 178 and Cleo Chapman Road (county road 143) are the only paved roads that access the property. Access by the general public to the Jocassee Gorges by motorized vehicles will follow a seasonal schedule. Road opening and closing schedules written below are given as general information. The DNR may open and close any road at any time and for such duration as deemed necessary by the DNR to manage the property.

- The operation of a motorized vehicle behind any closed gate is prohibited.
- Roads open to year-round public access include a section of Horsepasture to Laurel Fork Gap (from SC 178 only).
- All roads with green gates are seasonally open from March 20 - May 10 and Sept. 15 - Jan. 1. All roads with red gates are closed to vehicular traffic. This information will be posted at all major entrances. Gate color may be changed at discretion of DNR.
- Motorized vehicles, all-terrain vehicles, and off-road vehicles may be operated only on open maintained roads and parking areas except as otherwise established by posted notice or as approved by the DNR.
- Motorized vehicles, all-terrain vehicles, and off-road vehicles shall not exceed speed limits posted on DNR



Camping is allowed at any point along the Foothills Trail in Jocassee Gorges. (Reprinted from "Mosaic: 21 Special Places in the Carolinas, copyright 2002, by permission of Westcliffe Publishers Inc., Englewood, Colo., and Tommy Wyche, the photographer.)


signs. On any land where no speed limit signs are posted the speed limit shall be 15 miles per hour.

- The operation of all-terrain vehicles is restricted as follows: Operation of all terrain vehicles is restricted to one hour before sunrise to one hour after sunset each day beginning on Monday and continuing through the following Friday. A person may use an all-terrain vehicle while actually engaged in hunting at any time hunting is allowed; provided, however, the operation of an all-terrain vehicle is restricted to one hour before sunrise to one hour after sunset with the exception of game retrieval, and an all-terrain vehicle may be used only on open roads.

- All-terrain vehicles having three (3) wheels and motorcycles constructed or intended primarily for off road use, such as dirt bikes and motocross bikes, are prohibited within the Jim Timmerman Natural Resources Area at all times.

- Bicycles may be ridden on any road or area that is not posted as closed to bicycles.

- Horses may be ridden on any road that is not posted as closed to horse riding. Horses or pack animals may not be used in connection with camping.

- The use of hang gliders, parachutes, or similar devices is not allowed and may be deemed abuse of DNR land. 



## Jocassee Journal

Information and News about the Jocassee Gorges

S.C. Department of Natural Resources

Dr. Paul A. Sandifer, Director

Editor: Greg Lucas

Funding for this publication provided by:

Harry Hampton Memorial Wildlife Fund

For information on subscribing  
to the Jocassee Journal contact:

Greg Lucas, DNR

PO Box 167, Columbia, SC 29202

Phone: (803) 734-3911

Fax: (803) 734-3951

email: [glucas@scdnr.state.sc.us](mailto:glucas@scdnr.state.sc.us)

Website: [www.dnr.state.sc.us/wild/jocassee/index.htm](http://www.dnr.state.sc.us/wild/jocassee/index.htm)

The South Carolina Department of Natural Resources prohibits discrimination on the basis of race, color, gender, national origin, disability, religion or age. Direct all inquiries to the Office of Human Resources, PO Box 167, Columbia, SC 29202.

## Jocassee Project Sponsors

CLEMSON  
UNIVERSITY



DNR



State Park  
Service

North American Wetlands Conservation Council



The Cliffs  
COMMUNITIES



### THE CONSERVATION FUND



DNR

S.C. Department of Natural Resources

1000 Assembly Street • PO Box 167

Columbia, SC 29202-0167

PRSRT STD  
US POSTAGE  
PAID  
COLUMBIA SC  
PERMIT #535

## Eastatoee Valley survey yields 14 species new to South Carolina

A botanical survey of the Eastatoee Valley in Pickens County has turned up 14 plant species never found before in South Carolina, including at least one kind of goldenrod that may be new to science.

"It's a place of unparalleled botanical diversity," says Bert Pittman, botanist with the S.C. Department of Natural Resources (DNR) Heritage Trust Program. Much of the land being surveyed is in the Jocassee Gorges.

Patrick McMillan, curator of the herbarium at Clemson University, Pittman and Katherine Boyle, also of DNR, began studying the property for the DNR in the summer of 2001. So far, they have found more than 600 species of vascular plants, including 14 uncommon to rare plant species never found before in South Carolina, among those broad-leaved tickseed, a species of federal concern.

Of particular interest is the discovery by McMillan of what may prove to be a new species of goldenrod known only from Eastatoee Valley and similar habitats in Virginia. Scientific documentation is being prepared to describe its morphological variation and delimit its ecological and geographic range.

The diversity of the area is attributed to weather and geology, according to McMillan. The area of Eastatoee Valley gets more rain than any place in the state, and much



A Clemson University botanist has discovered in the Eastatoee Valley what may prove to be a new species of goldenrod. (Photo by Patrick McMillan)

of the underlying rock is amphibolite instead of the traditional granite. Amphibolite is high in magnesium, and when it breaks down, it creates a more alkaline or basic soil; most soils in the mountains of South Carolina are very acidic or "sour" and nutrient poor. These richer or "sweeter" soils provide a nurturing environment for many types of rare plants more common in the Midwest or valleys of Tennessee.

